Re item V

Justified finding with regard to novelty, inventive step and industrial applicability; documents and statements to support this finding

Reference is made to the following document:

D1: PATENT ABSTRACTS OF JAPAN Vol. 1997, No. 12, December 25, 1997 (1997-12-25)-& JP 09 218040 A (NISSAN MOTOR CO LTD), August 19, 1997 (1997-08-19)

Novelty:

1.1 The document D1 is considered to be the closest prior art. This document deals with the same problem as the present application, see D1, sections [0011]-[0013], [0033]; it discloses a method for monitoring a vibration gyro having the same features as in the precharacterizing clause of claim 1 (the analysis of this document was based on the on-line translation which is provided on the Japanese Patent Office website): the excitation signal (produced by the AC voltage source 11) is switched off, the amplitude of the decaying output signal is evaluated (sections [0017]-[0037] and Figure 2); the Q-factor of the resonator is measured, and a fault message is produced if the Q-factor is below a threshold value (section [0037]).

1.2 The subject matter of claim 1 differs from the method that is known from D1 in that an additional phase shift of the excitation signal is inserted temporarily into the control loop, and in that any frequency change caused by this is evaluated. The subject matter of this claim is thus novel.

Inventive step:

2.1 The method that is known from D1 is described in the context of a check after manufacture, and before installation in a vehicle (sections [0011]-[0014]). However, it is in no way restricted to this application since there is no step in the method which starts from the vehicle being stationary (where D1 in the translated version refers to "drive stop", for example in section [0013], this means that the excitation signal is switched off, not that the vehicle is stationary). The method is thus in fact suitable for use in a moving vehicle unless no rotation rate signal can be measured during the period in which the excitation signal is interrupted. However, the same

may apply to the method described in the present application since, as is shown in Figure 2b, the resonator is temporarily not in a well-defined state from t1 on, so that it is not immediately clear whether either the running-on of the control loop or a rotation rate that has actually occurred is responsible for the change in signal. In other words, no rotation rate can be determined in the case of the claimed method either between t1 and t2 (and also temporarily after t2 as well). From this point of view, the claimed method offers no advantage over D1.

2.2 The object of the application is therefore to find an alternative for the method described in D1.

2.3 D1 contains no information relating to the temporary insertion of an additional phase shift into the excitation signal. Furthermore, such insertion has not been disclosed in any other document in the same context, either.

2.4 Although those skilled in the art are generally familiar with the capability to analyze periodic signals both in the time domain and in the frequency domain, it cannot be regarded as certain that a person skilled in the art would in this specific case necessarily replace the decaying resonant amplitude by the changing resonant frequency.

2.5 For these reasons, the subject matter of claim 1 is based on an inventive step.

2.6 Claims 2 and 3 are dependent on claim 1, and thus likewise satisfy the requirements of the PCT with regard to novelty and inventive step.